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**ADVERTISING EFFECTIVENESS:
THE IMPACT OF ADVERTISING CREATIVITY AND
EMOTIONAL MEDIA CONTEXT**

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Abstract

Ad creativity and the emotional media context in which the ad is embedded are known to play an important role in ad effectiveness. As the effectiveness of ad campaigns is a major concern for advertisers nowadays due to the rising cost of consumer attention, the current research explores how it can be enhanced by looking both at the impact of ad creativity dimensions and of the arousal level of the media context on advertising outcomes. Two studies were conducted for this purpose. The first one (N = 217) showed that the two ad creativity dimensions – divergence and relevance – exert a differential effect on attitude toward the ad, attitude toward the brand and purchase intention, and that the extent of such effects differs for emotional and informational ads. The second study (N = 66) demonstrated that the arousal level of the media context in which the ad is embedded seems to influence brand recall. The theoretical and managerial implications of such findings are discussed.

Keywords: Advertising, Creativity, Media context, Emotion

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1. Introduction

Nowadays, brands make huge investments in advertising. According to Zenith Optimedia's latest forecasts, global advertising expenditure was expected to grow by 4.5% in 2018, amounting to US\$581 billion by the end of the year. Although internet display is forecasted to be the main medium contributing to global growth in advertising spend between 2018 and 2021, television is still an influential brand awareness channel and by 2021 it will still account for 29.9% of global ad spend share, compared to a contribution of 25% of internet display (Zenith Optimedia, 2018). On top of this, as ad clutter increases and technology develops, consumers can opt to skip and avoid ads, becoming more and more powerful in controlling their exposure to marketing communications (Yang & Smith, 2009). As a result, grabbing consumers' attention has been a major concern for advertisers.

Taking this factors in consideration, it is crucial for managers to measure advertising effectiveness, that is, understanding if and to what extent their advertisements are generating the desired effects and influencing consumers, how do consumers react toward advertising and the relationship between those responses, such as cognitions, emotions, attitudes, memory and behavior (Eisend & Tarrahi, 2016).

The purpose of this research is to explore how ad effectiveness can be enhanced, by looking at two ways of increasing consumers' attention. One way is by working on advertising execution (i.e., on the production of the advertisement itself). Here, ad creativity was seen to be crucial for a successful result (e.g., Ang, Lee, & Leong 2007; Smith et al., 2007; Till & Baack, 2005). Another way is by working on advertising delivery (i.e., the distribution of the ad to the audience). Previous research has shown that the media context in which the advertisement is embedded elicits emotional reactions from viewers that influence their ad evaluations and responses, and consequently, advertising effectiveness (Cox, Cox, & Mantel, 2010; Pavelchak, Antil & Munch, 1988; Puccinelli, Wilcox & Grewal, 2015).

However, although many researchers have studied the impact of ad creativity and of the emotional media context on advertising effectiveness, there are still gaps that remain unexplained in the literature. Regarding ad creativity, even though the differential impact of its dimensions on advertising outcomes has been previously addressed, researchers did not analysed if this impact differs across emotional and informational ads. This understanding allows better decisions on how to vary the emphasis on the two dimensions of ad creativity - divergence and relevance - when choosing the best strategy to adopt depending on the type of ad execution format, in order to improve the effectiveness of ad campaigns. Concerning the emotional media context, although there are several studies that took a global emotional evaluation of the program in which the ad is embedded, they did not look at the dynamic nature of emotional responses throughout the program. Understanding the influence of moment-to-moment context content on consumers' reactions is important as it allows advertisers to identify which is the best position to introduce an ad in a given TV program in order to improve its effectiveness.

Hence, the present study intends to shed further light on these issues in order to expand the insights obtained by previous research by exploring the differential impact of ad creativity dimensions on both emotional and informational ads and by looking at the emotional impact of media context on consumers' responses to embedded advertisements through a moment-to-moment approach. The following sections include a review of past research conducted in these areas, the proposed hypotheses, the two studies conducted and respective methodology, results and discussion, and finally the implications, limitations and suggestions for future research.

2. Literature Review

2.1 Creativity and Advertising effectiveness

In a cluttered and competitive marketplace, ads need to stand out to catch consumers' attention. Hence, creativity is considered to be a core determinant of advertising effectiveness and success (Reid, King, & DeLorme, 1998) and it has been proven to have an impact on advertising outcomes. For example, it has been shown that creative ads enhance attitude toward the ad (Ang et al., 2007; Smith et al., 2007; Till & Baack, 2005), attitude toward the brand (Ang et al., 2007; Ang & Low, 2000; Smith et al., 2007), recall (Ang et al., 2007; Baack, Wilson, & Till, 2008; Till & Baack, 2005) and purchase intention (Kover, Goldberg, & James, 1995; Smith et al., 2007; Yang & Smith, 2009). While the above-mentioned studies have found a favourable effect of ad creativity on such advertising outcomes, others present some inconsistencies with those findings. For example, Till and Baack (2005) did not find an impact of creativity on brand attitude or purchase intention.

Although advertising creativity has been a topic of interest for many researchers (Ang et al., 2007; Ang & Low, 2000; El-Murad & West, 2004; Smith et al., 2007; Smith & Yang, 2004), there is no consensus in the literature regarding its definition. While for some researchers ad creativity is determined solely by divergence (e.g., Till & Baack, 2005), others see it as a function of two dimensions - divergence and relevance (Smith & Yang, 2004). A divergent ad must be somehow new, different or unusual, breaking away from viewers' expectations. In order to be relevant, an ad must have meaning or value to the audience, thus being informative and useful in helping consumers understand the product or service that is being advertised (Sheinin, Varki & Ashley, 2011; Smith & Yang, 2004). Moreover, some researchers believe that ad creativity is determined by three components - novelty, meaningfulness and connectedness - rather than two (Ang et al., 2007). For this research, Smith and Yang's (2004) definition of ad creativity will be used as most researchers in the psychological and marketing literature agree that creative ads must be simultaneously

divergent and relevant and believe that these are the two main dimensions explaining ad creativity (Smith, Chen & Yang, 2008; Smith et al., 2007; Smith & Yang, 2004).

Looking more specifically into the contribution of each of these two creativity dimensions to ad performance, research has shown that divergence leads to increased consumer attention (Bettman, 1979; Johnston et al., 1990; Pieters, Warlop, & Wedel, 2002) and ad processing (Pieters et al., 2002; Smith et al., 2007; Yang & Smith, 2009), therefore improving recall (Baack et al., 2008; Pick, Sweeney, & Clay, 1991; Till & Baack, 2005). The relevance dimension was found to contribute positively to motivation, ad processing and purchase intention (Smith et al., 2007).

Although some previous studies have examined the effect of creativity on ad outcomes at the dimensional level (e.g., Sheinin et al., 2011; Smith et al., 2007), we are unaware of any paper that has explored if that effect differs depending on the type of ad execution format (emotional vs. informational). While emotional ads use emotion-eliciting strategies to appeal to viewers' emotions, informational ones are meant to appeal to viewers' rationality through objective information (Goldberg & Gorn, 1987; Golden & Johnson, 1983). Thanks to their different nature, we believe that the impact of divergence and relevance on ad performance will be different for the two types of ads. Thus, the present study seeks to shed further light on this issue by including both emotional and informational ads in the analysis when examining to what extent each of the dimensions of ad creativity contributes to each advertising outcome, focusing on attitude toward the ad (Aad), attitude toward the brand (Ab) and purchase intention (PI). This understanding will help advertisers to decide how to vary the emphasis on divergence and relevance when choosing the best strategy to adopt depending on the type of execution format of their ads, in order to improve the effectiveness of ad campaigns.

As in previous research assessing the differential effect of relevance and divergence on ad outcomes (Sheinin et al., 2011), the predictions of the present study will be in part based on the Elaboration Likelihood Model which views functional dimensions as central cues that have a strong influence on persuasion and hedonic dimensions as peripheral cues that have a weaker influence on persuasion (Petty & Cacioppo, 1986). Thus, according to this model, divergence can be seen as the hedonic dimension of creativity, expected to drive psychological or hedonic benefits, while relevance corresponds to the functional dimension expected to lead to more rational benefits. From this, we can expect attitude toward the brand to be influenced by both divergence, through the enhancement of brand affect (Hirschman & Holbrook, 1982), and relevance, through the enhancement of brand beliefs (Aaker, 1991). Similarly, we expect attitude toward the ad to be influenced by both a hedonic dimension, like divergence, and a functional one, like relevance, as it is both affect and belief-based. Regarding purchase intention, since it is belief-based, we don't expect a hedonic dimension like divergence to influence it. Only relevance is expected to impact it as message usefulness is expected to lower perception risks associated with purchase (Matzler, Grabner-Kräuter, & Bidmon, 2008; Reast, 2005).

As emotional ads are designed to appeal to consumers' emotions and to evoke feelings (Yoo & MacInnis, 2005), it is expected a hedonic dimension as divergence to exert a significant main effect on Aad and Ab on this type of ads compared to a more rational one like relevance. On the contrary, since informational ads are intended to appeal to consumers' rationality, having a more straightforward and expository nature, we expect a significant main effect of a functional dimension like relevance on Aad and Ab compared to divergence, as consumers should like the ad better if it is credible and meaningful (Yoo & MacInnis, 2005). Thus, based on the reviewed literature, we posit the following hypotheses:

H1a: For emotional ads, divergence influences Aad more than relevance.

H1b: For informational ads, relevance influences Aad more than divergence.

H2a: For emotional ads, divergence influences Ab more than relevance.

H2b: For informational ads, relevance influences Ab more than divergence.

H3: Only relevance influences PI, both for emotional and informational ads.

2.2 Media Context Emotional influence on Advertising effectiveness

Previous research has revealed that advertising outcomes are influenced by the emotional arousal (i.e., emotional intensity) elicited by the media context in which the ad is embedded. For example, Pavelchak et al. (1988) found that the effect of emotional arousal induced by a TV program on ad recall is negative. This result is in line with the intensity principle, which states that when viewers are exposed to a high arousing TV program, their attention will be directed to the program and not to the embedded ads, leading to lower ad recall. Moreover, Puccinelli et al. (2015) have shown that when there is a high discrepancy between the energy level (i.e., the arousal level) of an ad and viewers' emotional arousal, ad performance will be harmed. More specifically, exposing consumers who are in a deactivating emotional state (i.e., experiencing an emotion that is low in arousal) to a highly energetic advertisement (i.e., an ad with high levels of arousal) increases processing difficulty and, consequently, results in reduced brand recall.

However, none of the above-mentioned studies looked at the dynamic nature of emotional responses throughout the program. Instead, they rely on an emotional evaluation of the program as a whole and compare ad performance on, for example, high arousing programs versus low arousing ones, without taking in consideration the exact position of the context where the ad is inserted. We believe that controlling for ad position is crucial to deeply understand the results in this field as well as to make them comparable. Therefore, the present study proposes that, more than choosing between two types of emotional programs, ad effectiveness can be improved by finding the best place to insert an ad in a given program,

using a moment-to-moment (MTM) analysis of viewers' emotional arousal during the exposure, with the purpose of expanding previous research and obtain further insights. Since the above-mentioned researchers have found differences in ad and brand recall between ads placed in two contexts with different arousal levels, we expect differences to be also observed within the same media context between moments with different levels of arousal. Thus, based on the reviewed literature, the following hypotheses are proposed:

H4a: Ad recall in the most arousing scene of the media context is significantly different from ad recall in a less arousing scene of the media context.

H4b: Brand recall in the most arousing scene of the media context is significantly different from brand recall in a less arousing scene of the media context.

A MTM approach will be used as it has been previously applied in several studies and its use has been increasing. For example, Baumgartner, Sujan, and Padgett (1997) have used the “feelings monitor”, a MTM declarative method, to understand the relation between consumers' moment-to-moment affective reactions to ads and their overall ad judgments. MTM data has also been collected to identify the best way to place brands in ads in order to increase its visualizations (Teixeira, Wedel & Pieters, 2010). This was done through a MTM implicit methodology called infrared corneal-reflection eye tracking. As there are several bias associated with self-reported measures, also known as declarative or explicit data (Chartrand & Fitzsimons, 2011; King & Bruner, 2000), the present study uses MTM implicit data (galvanic skin response) for arousal analysis.

The predictions formulated in this section will be tested by two different studies, both with the purpose of exploring how advertising effectiveness can be enhanced. Study 1 focuses on ad execution and tests the effect of ad creativity dimensions on three ad outcomes – Aad, Ab and PI – for both emotional and informational ads (H1a, H1b, H2a, H2b and H3). Study 2

explores how ad performance can be improved after the execution stage, through ad delivery, testing the effect of emotional media context on ad and brand recall (H4a and H4b).

3. Study 1

The purpose of the first study is to analyse the different contribution of the two dimensions of ad creativity - divergence and relevance - for three different advertising outcome measures - attitude toward the ad (H1a, H1b), attitude toward the brand (H2a, H2b) and purchase intention (H3) – on emotional and informational ads. An online survey was conducted to assess participants' perceptions of three ads.

3.1 Method: Design and Procedure

Two hundred and seventeen people (the majority between 18 and 25; 36% male) responded to the online questionnaire. It was distributed mainly through Facebook and no age nor gender limitations were imposed. Since all the ads used in the survey were in Portuguese, all the respondents were Portuguese, as they needed to understand the content of the ads in order to answer the questions.

The survey comprised three advertisements from a Portuguese integrated energy operator - Galp - that were shown in a randomized order across participants to control for possible serial-position effects. Two of the ads were emotional and the other one was informational. After watching each ad, respondents were asked to answer questions about them. Several scales were used to assess ad effectiveness measures: (a) five items assessing attitude toward the ad using a seven-point bipolar scale (good-bad, like-dislike, irritating-not irritating, interesting-uninteresting, boring-not boring); (b) four items assessing attitude toward the brand using a seven-point bipolar scale (good-bad, dislike very much-like very much, pleasant-unpleasant, poor quality-high quality); and (c) a single seven-point bipolar scale assessing purchase intention of the advertised brand (1="not at all likely to buy",

7=“very likely to buy”) (Bruner, 2009; Mitchell & Olson, 1981). To measure advertising creativity, the scales used were: (d) five items assessing ad divergence using a seven-point Likert scale (1= “Strongly disagree”, 7= “Strongly agree”); and (e) four items assessing ad relevance using a seven-point Likert scale (1= “Strongly disagree”, 7= “Strongly agree”) (Smith et al., 2007; Yang & Smith, 2009).

Finally, the collected data was statistically analysed using IBM SPSS Statistics 24.

3.2 Results

The collected data was analysed using regression analysis. Several multiple linear regressions were conducted to assess the differential contribution of each ad creativity dimension to the advertising outcomes. For each ad outcome discussed below, the results are presented as follows: the first two results for the two emotional ads and the third result for the informational one.

Firstly, attitude toward the ad was regressed on both ad divergence and relevance. The overall models were statistically significant for the three ads, $F(2,108)=13.322$, $p<.001$, $R^2=.20$; $F(2,103)=30.808$, $p<.001$, $R^2=.37$; $F(2,105)=25.467$, $p<.001$, $R^2=.33$, and the effect of divergence, $\beta=.27$, $t(108)=2.95$, $p=.004$; $\beta=.38$, $t(103)=4.55$, $p<.001$; $\beta=.47$, $t(105)=5.66$, $p<.001$, and relevance, $\beta=.26$, $t(108)=2.84$, $p=.005$; $\beta=.37$, $t(103)=4.39$, $p<.001$; $\beta=.22$, $t(105)=2.66$, $p=.009$, was positive and significant. This means that attitude toward the ad was positively influenced by both divergence and relevance. Looking at the standardized coefficients, it is possible to see that divergence had more influence on Aad than relevance, especially for the informational ad. Therefore, H1a was supported, while H1b was not.

Then, attitude toward the brand was regressed on ad divergence and relevance. The overall models were statistically significant for the three ads, $F(2,108)=25.116$, $p<.001$, $R^2=.32$; $F(2,103)=18.996$, $p<.001$, $R^2=.27$; $F(2,105)=17.038$, $p<.001$, $R^2=.25$, and the effect of divergence, $\beta=.26$, $t(108)=3.02$, $p=.003$; $\beta=.23$, $t(103)=2.54$, $p=.01$; $\beta=.20$, $t(105)=2.27$,

$p=.03$, and relevance, $\beta=.41$, $t(108)=4.83$, $p<.001$; $\beta=.39$, $t(103)=4.36$, $p<.001$; $\beta=.40$, $t(105)=4.57$, $p<.001$, was positive and significant. Besides the positive influence of both creativity dimensions on Ab, the standardized coefficients show that relevance influenced more Ab compared to divergence across the three ads, supporting H2b but not H2a.

Finally, another regression was run with purchase intention as the dependent variable and divergence and relevance as the predictor variables. The overall models were statistically significant for the three ads, $F(2,108)=42.682$, $p<.001$, $R^2=.44$; $F(2,103)=30.893$, $p<.001$, $R^2=.38$; $F(2,105)=41.329$, $p<.001$, $R^2=.44$. While relevance had a positive and significant effect for all three ads, $\beta=.66$, $t(108)=8.48$, $p<.001$; $\beta=.55$, $t(103)=6.58$, $p<.001$; $\beta=.66$, $t(105)=8.77$, $p<.001$, the effect of divergence was not significant for none of the ads and was even negative for the informational one, $\beta=.02$, $t(108)=.28$, $p=.78$; $\beta=.14$, $t(103)=1.71$, $p=.09$; $\beta=-.00$, $t(105)=-.04$, $p=.97$. Thus, H3 was supported.

3.3 Discussion

Study 1 revealed that attitude toward the ad is more influenced by divergence than by relevance, for both types of ad execution. This is in line with our predictions for emotional ads but not for informational ones. A possible explanation for this is that divergent ads may require consumers to process the ad in more depth in order to understand it and, as consumers enjoy processing creative ads, this positive affect will be transferred to the ad (Smith & Yang, 2004), which explains the main impact of ad divergence on attitude toward the ad. Moreover, it was shown that this effect is even more visible for informational ads compared to emotional ones, with divergence standing out as a predictor of Aad. This may stem from the fact that, as informational ads appeal to viewers' rationality by being rich in objective information (Yoo & MacInnis, 2005), viewers will process the ad in more depth not only because it is divergent, but also because its informational content needs to be processed in a cognitive way. As consumers enjoy processing creative ads, the deeper processing required for informational ads

will generate even more positive affect that will transfer to the ad, resulting in a bigger impact on Aad. These findings suggest that there are, in fact, differences between emotional and informational advertisements that arise from the different processing of the two types of ads. Past research has shown that when the type of ad execution format matches consumers' processing style, ad effectiveness increases (Ruiz & Sicilia, 2004). This suggests that informational ads require a cognitive processing while emotional ones are processed in an affective, and therefore, less deeper way.

Furthermore, it was found that relevance influences Ab more than divergence for both types of ads, with no big differences between emotional and informational ones. The reason for this to happen is possibly that, regardless of the ad execution format, consumers feel the need to be informed about the brand, through message usefulness or relevance, to form evaluations of it and it is more likely that they form attitudes toward brands that are meaningful to them (Smith et. al, 2007).

Additionally, the results demonstrated that purchase intention is only explained by relevance, and not by divergence. This result is in line with what was expected. As purchase intention is a more rational, belief-based decision, message relevance, which is a functional dimension, should influence it, while a hedonic dimension like divergence should not, regardless of the type of ad execution format. This makes even more sense for informational ads. Since they aim to appeal to consumers' rationality (Yoo & MacInnis, 2005), the effect of a hedonic dimension like divergence on a belief-based and rational decision like purchase intention, if significant, would be negative.

4. Study 2

This study aims to show that recall, both for the ad and for the brand, is significantly different when the ad is placed in the most arousing scene of the media context where it is

embedded compared to when it is placed in a less arousing scene of the same media context (H4a and H4b). These hypotheses were tested through an experimental approach.

4.1 Method: Design and Procedure

4.1.1 Pre-study: Context Emotional Tracking

The media context used in this study was emotionally tracked by MindProber, an automated consumer neuroscience platform that collects physiological/biometric reactions of spectators while they are exposed to media content in order to analyse and better understand consumer decision-making processes. The measures were collected from 76 people (aged between 18 and 65; 44% male) at their respective home, through wearable biometric sensors attached to their hands. The stimulus provided to them was a 50-minute long episode of the Portuguese soap opera “Vidas Opostas”.

During the test session, second-by-second physiological measures were collected through the biometric sensors. The measure collected is called galvanic skin response (GSR), also called electrodermal response, which is the electrical activity of sweat glands measured on the palms of the hands and the tips of the fingers. A timeline analysis was obtained, showing the second-by-second level of emotional arousal of participants during the episode.

4.1.2 Experimental Study

Sixty-six people (the majority between 18 and 25; 48.5% male) participated in the experimental study with a between-subjects design. All participants were Portuguese, as they needed to understand the content of the media context and of the ad used in the experiment (both were in Portuguese). Participants were recruited in person, mainly at the university, and they gave their consent after an explanation of the procedure. They were told that the goal of the study was to analyse how people respond to video stimuli. Participants were randomly assigned to one of two conditions to watch a Portuguese soap opera episode with an ad embedded within it. The experimental sessions were conducted in a classroom and the video

was shown on a big screen. Participants were within easy viewing distance from the screen. The environmental circumstances, such as light and chairs, were identical on both conditions.

The ad used as target stimulus in the experiment was one of the Galp ads used in Study 1. It was chosen an ad with positive valence, as those are the type of ads most frequently used by advertisers to market their products or services. The ad was aired on Portuguese television and its length was approximately one minute. The entire experiment took approximately one hour. The instructions in both conditions were as follows: “You will see a 50-minute long video and answer a 5 to 10-minute survey at the end”. In the high arousal condition, the ad was inserted in the most arousing scene of the soap opera episode. In this scene, the “good guy” is chased by the “bad guy” because of a misunderstood between the two characters and ends up getting shot by him. In the low arousal condition, the ad was placed in the lowest arousing scene of the episode. This scene shows a housekeeper cleaning the house with music playing on the background. After watching the episode and the ad, participants answered a questionnaire assessing their ad and brand evaluations. To assess ad recall, participants were asked whether they remembered the ad shown in-between the soap opera episode and which were the three words that they most associate with it. Regarding brand recall, it was asked if participants could remember the brand being advertised in-between the episode and which was it. These measures were coded as 1 if participants recalled the ad or brand and 0 if they did not recall the ad or brand. Ad arousal was also assessed, with four items using a seven-point bipolar scale (not energetic-energetic; dull-exciting; not animated-animated; inactive-active) (Barrett & Russell, 1998; Russell & Mehrabian, 1977). Other control variables such as context liking and familiarity were also collected.

4.2 Results

First of all, no differences were observed between context liking and familiarity between the two conditions. According to the results, 61 out of 64 participants recalled the ad shown in-between the soap opera episode. Three participants did not recall the ad. The frequencies of ad recall in each condition can be found in *Table 1*. The ad was almost equally recalled in the two conditions (51% of participants recalled the ad in the high arousal condition, while 49% of participants recalled the ad in the low arousal one).

Table 1. (Ad Recall frequencies by condition)

Condition	Count	Frequency
High Arousal	31	51%
Low Arousal	30	49%

A Chi-Square test was conducted (*Table 2*), which confirmed that there are no significant differences in ad recall between conditions (Fisher's Exact Test=1.000, n.s.). Thus, H4a was not supported.

Table 2. (Chi-Square test on ad recall)

Ad Recall by condition				Test Statistics	
Condition	Observed N	Expected N	Residual		
High Arousal	31	31.5	-0.5	Chi-Square	.288 ^a
Low Arousal	30	29.5	0.5	df	1
Total	61			Asymp. Sig.	.592
				Fisher's Exact Test	1.000
				a. 2 cells (50.0%) have expected N less than 5. The minimum expected N is 1.45.	

With respect to brand recall, 55 out of 66 participants recalled the brand advertised in-between the soap opera episode. Eleven participants did not recall the brand. The frequencies

of brand recall in each condition can be found in *Table 3*. The brand was most recalled in the high arousal condition (55% of participants).

Table 3. (Brand Recall frequencies by condition)

Condition	Count	Frequency
High Arousal	30	55%
Low Arousal	25	45%

To understand if these differences in brand recall between the two conditions are significant, a Chi-Square test was performed (*Table 4*). It was found that there are partially significant differences between conditions regarding brand recall, considering a .1 significance level ($X^2 = 2.727$, $df=1$, $p=.099$). Thus, H4b is partially supported by these findings.

Table 4. (Chi-Square test on brand recall)

Brand Recall by condition				Test Statistics	
Condition	Observed N	Expected N	Residual		
High Arousal	30	27.5	2.5	Chi-Square	2.727 ^a
Low Arousal	25	27.5	-2.5	df	1
Total	55			Asymp. Sig.	.099
				a. 0 cells (.0%) have expected N less than 5. The minimum expected N is 5.50.	

Furthermore, the observed frequencies imply that brand recall is higher in the high arousal condition. As arousal incongruity between ad and program has been shown to have an impact on brand recall (Puccinelli et al., 2015), looking at the perceived energy or arousal level of the target ad used in the experiment could be interesting to interpret the results. The results revealed that the selected ad is perceived as highly energetic by participants in both

conditions ($M_{HA} = 6.10$, $M_{LA} = 5.70$, $F(1,59) = 2.027$, $p = .107$), as both energy levels are above the high energy threshold of 5.20 defined by Puccinelli et al. (2015).

4.3 Discussion

Based on previous research, ad recall was predicted to be significantly different depending on the level of arousal of the media context scene in which the ad is inserted. However, the results of Study 2 are inconsistent with, for example, Pavelchak et al.'s (1988) findings, suggesting that there are no significant differences in this variable between the high arousal and the low arousal conditions. In fact, ad recall frequencies, if significant, would suggest that ad recall would be higher in the high arousal condition. A possible explanation for this direction of the results could be a misattribution of the arousal elicited by the context to the ad, meaning that participants would misattribute the residual arousal from the previous stimulus (i.e., the high arousal scene of the context) to the present stimulus (i.e., the ad) (Cantor, Zillmann & Bryant, 1975; White, Fishbein & Rutstein, 1981). On top of this, previous research has observed that high arousal moments tend to be the most recalled ones (Golland, Keissar & Levit-Binnun's, 2014) and that, when making retrospective evaluations of affective episodes, people focus on the moment of peak emotional intensity (Fredrickson, 2000). Thus, this could explain the tendency for ad recall to be higher in the high arousal condition, as people would remember more the ad because they would consider it to be more arousing as a result of the contamination of arousal from the soap opera scene to the ad. Hence, the non-significant results might be a consequence of the small sample size and of the laboratory setting of the experiment. As it was shown one single ad within the context and participants were expecting to be asked questions, the test situation may have prompted a high ad recall compared to what would be expected in a normal viewing situation at home, not allowing significant differences between the two conditions to show up.

Finally, the results reveal that there are partially significant differences in brand recall between the high arousing scene and the less arousing one, with brand recall being higher in the high arousal condition. These results are in line with previous research conducted by Puccinelli et al. (2015) which demonstrated that when consumers who are experiencing an emotion that is low in arousal are exposed to a highly energetic or arousing ad, they are less likely to recall the brand than those who are not in an deactivating emotional state. This happens because processing difficulty increases. As the target ad used in the experiment was above the energy level threshold of 5.20 from which perceived energy increases perceived difficulty (Puccinelli et al., 2015), participants who were in the low arousal condition had more difficulty in watching and processing the ad, which led to reduced brand recall.

5. General Discussion

This research examined how to enhance ad effectiveness at two different stages: during ad execution and afterwards while the ad is diffused to the audience.

For the first part, Study 1 was conducted to explore the distinct effect of the two dimensions of ad creativity on attitude toward the ad, attitude toward the brand and purchase intention, for emotional and informational ads. The results demonstrated that attitude toward the ad is more influenced by divergence than by relevance, for both types of ad execution, being this bigger influence of divergence even more visible in the case of the informational ad. Furthermore, it was found that relevance influences Ab more than divergence for both types of ads, with no big differences between emotional and informational ones. Additionally, the results demonstrated that purchase intention is only explained by relevance, and not by divergence, for both ad execution formats.

After producing the ad in line with the advertiser's goals, it is still possible to increase its performance by understanding which is the best position to insert it in a given media

context. Hence, a second study was conducted to assess the impact of emotional media context on ad effectiveness, more specifically, on ad and brand recall. The results of study 2 suggest that there are no significant differences in ad recall between the high arousal and the low arousal conditions. Finally, the results reveal that there are partially significant differences in brand recall between the high arousing scene and the less arousing one, with brand recall being higher in the high arousal condition.

5.1 Theoretical and Practical Implications

These findings have important theoretical and managerial implications. They extend work on the differential effect of ad creativity dimensions on advertising performance to show that ad creativity works differently on some ad outcomes for emotional and informational ads. Hence, advertisers should take the type of execution format of their advertisements into consideration when deciding how to vary the emphasis on divergence and relevance in their ads, to achieve better results. While it is known that creative ads should contain a combination of both dimensions, our findings suggest that advertisers seeking for high scores of Aad should bet more on divergence when producing the ad, even more if their ad is informational. If their goal is to increase Ab, then they should put more emphasis on ad relevance during ad execution, both for emotional and informational ads. Finally, if advertisers want to drive purchase intentions, they should strongly invest on relevance for both types of ad execution, and even more if the ad is informational. By following such recommendations, they will be able to improve the effectiveness of their campaigns.

Additionally, the present research recommends that advertisers seeking to improve ad effectiveness should look not only at ad creativity, but also at the position of the ad within a certain media context. Whereas previous research has compared ad effectiveness between two different media contexts, the present study examines differences in ad effectiveness in different positions of the same media context, to understand which is the best position to

insert an ad within a program. The use of a MTM analysis is important for advertisers to understand which are the moments in a program that can improve the performance of their ads. Our research suggests that advertisers using highly energetic ads should place them in a high arousing scene within the program, instead of a low arousing one, to enhance brand recall.

5.2 Limitations and directions for future research

There are some limitations that should be kept in mind when interpreting the results of the present research and that could be addressed in the future. First of all, the demographic range of the collected samples, with the majority of participants being young adults with ages between 18 and 25, might have biased the results. For instance, not all young adults who are mainly students buy the product category of the ads chosen, which might have influenced the purchase intention measure in Study 1. Future research could extend the present study by including a wider demographic range.

Furthermore, time and facilities constraints resulted in a small sample size in the experimental study, which might be the reason why the results of media context on ad and brand recall are non-significant and only partially significant, respectively. Future researchers could perform the experiment with a larger sample size in order to obtain statistically significant results.

Another limitation of Study 2 is the fact that using an experimental approach has high internal validity but low external one. In such conditions, the reactions obtained from the participants are different from those obtained when consumers are watching the ads on TV at home. Therefore, research is needed to examine if the results of this experiment hold under natural viewing conditions.

Moreover, although the emotional and informational ads used in Study 1 were selected all from the same brand and product category in order to control for the impact of previous

brand attitudes on ad responses, this also reduces generality. For greater generality, future research could perform this analysis using ads from different product categories.

Lastly, Study 2 was conducted for TV advertisements and used only one ad. It would be worthwhile to further generalize the results to online advertising, testing different ad positions in a given YouTube video, and with different ads to see if the results hold.

6. Conclusion

In summary, this research draws attention to the fact that it is important to look at different steps of the advertising process, from execution to delivery, when trying to enhance advertising effectiveness. In terms of ad execution, it shows that the two ad creativity dimensions – divergence and relevance – exert a differential effect on ad outcomes such as attitude toward the ad, attitude toward the brand and purchase intention, and that the extent to which each dimension influences certain ad outcomes varies depending on whether the ad is emotional or informational. Concerning ad delivery, the present study demonstrates that the arousal level of the scene of the media context in which the ad is embedded influences brand recall for highly energetic ads, with high arousing scenes improving this advertising outcome. These findings represent an opportunity for advertisers seeking to grab consumers' attention and increase the effectiveness of ad campaigns.

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8. Appendices

Appendix 1. (Questionnaire: Study 1)

Dear respondent,

I am a student from Nova School of Business and Economics and I am conducting a research for my Master Thesis regarding the psychology behind video-content processing. I request your cooperation by completing this survey which was designed to be answered in a simple way, taking around 10 minutes. All the data collected is strictly confidential and not personally identifiable. Please answer the questions truthfully. ***The survey contains audiovisual elements, so please make sure that the sound of your computer/mobile phone is on.*** Thank you for your participation!

What is your gender?

- ☐ Male
- ☐ Female

What is your age?

- ☐ 18-25
- ☐ 26-35
- ☐ 36-45
- ☐ 46-55
- ☐ 56-65
- ☐ > 65

What is your education level?

- ☐ Less than high school (1)
- ☐ High school graduate (2)
- ☐ Professional school (3)
- ☐ Some college (4)
- ☐ Bachelor's degree (5)
- ☐ Master's degree (6)
- ☐ Doctorate (7)

Please watch the following advertisement.



Have you seen this ad before? How frequently?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1=Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	7=Very frequently

Which are the three words that you most associate with the ad?

What is your overall evaluation of the advertisement?

	1	2	3	4	5	6	7	
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Good
Dislike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Like
Irritating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not irritating
Uninteresting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not boring

What is your overall evaluation of the advertised brand?

	1	2	3	4	5	6	7	
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Good
Dislike very much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Like very much
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Plesant
Poor quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High quality

How likely would you be to buy the advertised brand?

	1	2	3	4	5	6	7	
1=Not at all likely to buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	7=Very likely to buy

Please answer how much you agree or disagree with the statements below:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The ad broke away from habit-bound and stereotypical thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ad contained ideas that moved from one subject to another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ad connected objects that are usually unrelated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ad finished basic ideas so that they	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The ad was artistically produced.

○ ○ ○ ○ ○ ○ ○

[illegible]

A YouTube video player interface. The video shows a smiling woman with dark hair and a red jacket, with the Portuguese flag painted on her cheek. The text '#LEVA PORTUGAL A PEITO' is overlaid in large, white, stylized letters. The YouTube logo is in the top left corner, and the video title 'Leva Portugal a Peito' is at the top. In the top right corner, there are icons for 'Watch later' and 'Share'.



Appendix 3. (Questionnaire: Study 2)

Dear respondent,

I am a student from Nova School of Business and Economics and I am conducting a research for my Master Thesis regarding the psychology behind video-content processing. I request your cooperation by completing this survey which was designed to be answered in a simple way, taking between 5 to 10 minutes. All the data collected is strictly confidential and not personally identifiable. **Please read carefully and answer the questions truthfully.** Thank you for your participation!

1. Do you follow this soap opera?

☐ Yes

☐ No

Questions number 2, 3 and 4 are only for people who answered **Yes** in question number **1**.

2. On a scale from 1 to 7, how frequently do you watch it?

1=Never							7=Always
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. On a scale from 1 to 7, how much do you like it?

1=Dislike extremely							7=Like extremely
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Have you seen this episode before?

☐ Yes

☐ No

5. Please describe the scene from this soap opera episode that you recall the most.

6. On a scale from 1 to 7, how much did you like that scene?

1=Dislike extremely								7=Like extremely
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

7. Can you remember the advertisement in-between the soap opera episode? Which are the three words that you most associate with the ad?

8. What is your overall evaluation of the advertisement? (If you do not remember the ad, do not respond to this question)

Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Good
Dislike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Like
Irritating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not irritating
Uninteresting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not boring

9. Please describe the advertisement scene that you recall the most. (If you do not remember the ad, do not respond to this question)

10. How energetic did you perceive the ad to be? (If you do not remember the ad, do not respond to this question)

Not energetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Energetic
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not animated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Animated
Inactive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Active

11. Can you remember the brand being advertised in-between the soap opera episode? Which was it?

12. What is your overall evaluation of the advertised brand? (If you do not remember the brand, do not respond to this question)

Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Good
Dislike very much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Like very much
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pleasant
Poor quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High quality

13. How likely would you be to buy the advertised brand? (If you do not remember the brand, do not respond to this question)

1=Not at all likely to buy								7=Very likely to buy
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

14. What is your gender?

- ☐ Male
- ☐ Female

15. What is your age?

- ☐ 18-25
- ☐ 26-35
- ☐ 36-45
- ☐ 46-55
- ☐ 56-65
- ☐ > 65

16. What is your education level?

- ☐ Less than high school
- ☐ High school graduate
- ☐ Professional school
- ☐ Some college
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctorate

Thank you for your time!

Appendix 4. (Ad used in Study 2)



Appendix 5. (MindProber's data of emotional arousal in the High Arousing scene of the soap opera)



Appendix 6. (MindProber's data of emotional arousal in the Low Arousal scene of the soap opera)

